

A bill privatizing the interim storage of spent nuclear fuel, S. 1478, introduced by Sen. Rod Grams (R-Minn.) Dec. 14, is receiving a lukewarm reception from the nuclear industry. That view, however, may change if legislation requiring DOE to build an interim storage facility fails or is vetoed by President Clinton.

Grams' bill allows a private consortium to build and operate an interim storage facility and for the Secretary of Energy to contract with the consortium for waste storage. The facility would be built on government-owned land, probably the Nevada Test Site. Opening an interim storage facility by 1998 is the motivation behind the bill, Grams said.

"With 1996 only a few weeks away, the deadline is rapidly approaching, and we are no closer to resolving this issue than the last time Congress enacted nuclear waste legislation," Grams said.

Cheaper, More Efficient

"And as with most initiatives, privatizing the interim storage program would improve efficiency and lower costs to the taxpayers," Grams said. The bill is modeled after the private storage initiative headed by Northern States Power. Grams claims a private facility would cost only \$135,000 million and be completed and accepting spent fuel by the end of 1998. But the Northern States/Mescalero Apache facility is not expected to open until 2002.

While not opposing Grams' bill, it seems most in the nuclear industry still are pinning their hopes on congressional action requiring DOE to build and operate an interim facility. "It (privatization) would be a last resort," Scott Peters, spokesman for the Nuclear Energy Institute, told NWN.

'It's a Little Too Late'

Even though there is evidence a private interim storage program could build a facility cheaper and faster than the government, the changeover to a private initiative would take a long time, according to Peters.

"It's a little too late," he said. It would only be an option if the government program fell apart he said.

That also seems to be the position of the National Association of Regulatory Utility Commissioners (NARUC). NARUC has no position on Grams' bill, according to Thomas Choman, a NARUC spokesman. NARUC will look at the bill but would prefer to solve the storage problem without a radical change to the civilian high-level waste program, he said.

Northern States Power, however, is very supportive of Grams' bill. "We really think it is an intriguing idea," Scott Northard, project manager on the Mescalero interim storage project, told NWN. And while the Mescalero project would be separate from any privatization initiative launched under the Grams' bill, Northard said Northern States would be interested in being a contractor on the facility.

Grams, elected to the Senate in 1994, received \$4,640 in campaign contributions from Northern States Power (the federal limit is \$5,000 per group) and \$25,000 overall from various utilities, according to the Center for Responsive Politics. This has lead some in the environmental community to see Grams' bill is a payoff for campaign contributions Bill Magavern, of Public Citizen, said.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 03017579 SPENT FUEL PLAN TO USE IFR COMPONENTS TO TREAT SF DRAWS FIRE Nuclear Waste News Dec 21, 1995 V. 15 NO. 50 ISSN: 0276-2897 WORD COUNT: 709

An Argonne National Laboratory plan to use the reprocessing equipment from the shut-down Integral Fast Reactor (IFR) to treat spent fuel from that reactor and from the Experimental Breeder Reactor (EBR) II is drawing criticism from arms control and citizens groups. Funding for all breeder reactor programs was terminated last year.

The electrorefiner portion of the IFR would be used on an experimental basis to treat 100 spent fuel subassemblies and 25 fuel blankets over a three year period, Dick Lindsay, spokesman for Argonne National Laboratory West, told NWN. Both the IFR and EBR II are located at the Idaho National Engineering Laboratory in Idaho Falls and run by Argonne. Problem Fuel

If the experiment with the IFR fuel proves successful, the same process would be used for treating EBR II fuel and possibly other problem fuel within the DOE complex, Lindsay said. An environmental assessment on the project is currently being conducted.

An assessment conducted on the recycle portion of the IFR in 1990 found no significant impact, but Lindsay said another assessment is required. If the three-year experiment proves successful a full environmental impact statement will be done before more fuel is treated. There are other ways to deal with spent fuel from the breeder reactors, but Lindsay said Argonne believes the electrorefiner process will prove to be the fastest and most cost efficient.

Fuel from the IFR and EBR II must be treated because it is contaminated with sodium, which is combustible when exposed to the atmosphere, Lindsay said. Liquid sodium is used to cool breeder reactors. During the fission process, some of sodium contaminates the fuel. Letting the fuel sit "is no option," Lindsay said because the fuel is both chemically active and radioactive.

Argonne Proposal

Argonne has proposed chopping the fuel into smaller pieces, then placing it in the electrorefiner, where the uranium would be separated from the fission products. The uranium, which is highly enriched, would be blended down. The sodium would combine with salts during processing, and like all the other fission products, including the plutonium, would eventually be vitrified.

But to arms control groups this looks like reprocessing, which they oppose. It also resembles the actinide recycle program proposed for the IFR, which was killed by Congress. The difference is plutonium would have been burned in the IFR, Lindsay said.

Lindsay cannot understand the objections to the new program. Vitrification of plutonium is exactly what arms control groups, "protest professionals" as Lindsay calls them, want. "We know how to reprocess fuel... We're looking to solve a problem," he said.

Besides the implications associated with reprocessing, citizens groups criticize the latest proposal for IFR as a "program without a mission or a plan," said Anna Aurilio, staff scientist with the U.S. Public Interest Research Group. Job Questions

Aurilio disputes Lindsay's claim that IFR and EBR fuel must be treated. "EBR fuel has been stored on site (at INEL) for 30 years," she said. Instead, Aurilio claims the latest proposal is simply a way to prevent lay-offs from the IFR program. DOE promised no job loss from shutting down the IFR and this is DOE's way of making that happen, she said.

Aurilio also called the fuel treatment program simply a way to keep the IFR alive until money can be found to restart the reactor.

"Of course we're trying to keep people together," Lindsay said. "We have the premier research team in the world." Jobs have already been lost because of the IFR cancelation, and if the electrorefiner program is cancelled, more jobs will be lost, he said.

The fiscal year 1996 budget provides \$73 million for decontamination and decommissioning work on the IFR and another \$25 million for the spent fuel treatment program. That is almost as much money as when the reactor was operating, Aurilio said.

IFR Restart Unlikely

Lindsay doubts the IFR program will be resurrected in the United States. "Of course people hope that," he said. But Argonne West is operating on the assumption that it will not. The reactor is being defueled and readied for decommissioning, he said.

Argonne can start treating the spent fuel as soon as they are given the go ahead, said Lindsay. The start date "depends totally on political stuff," he said.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 03007903 BUSINESS & TECHNOLOGY:
SF Dry Storage Nuclear Waste News Dec 14, 1995 ISSN: 0276-2897 WORD COUNT:
185

SF Dry Storage: Japan recently hosted an International Atomic Energy Agency (IAEA) technical committee meeting and workshop for global experts involved in the handling and safe storage of spent fuel from nuclear power plants. The meeting, held Oct. 23-27 at the Ministry of Trade and Industry in Tokyo, focused on storage options and selection principles of dry storage for VVER and RBMK reactors, within the IAEA's extra-budgetary program on the safety of such reactors. The program is funded by Japan and other nations. Participating experts represented nuclear organizations and utilities in Bulgaria, Canada, the Czech Republic, Germany, Hungary, Japan, the Slovak Republic, Spain, Russia, Ukraine and the United States. Experts discussed case studies on the selection process and financial and technical selection criteria for spent fuel storage options in various countries. The meeting included technical visits to Japan's Central Research Institute of the Electric Power Industry and the Tokyo Electric Power Co.'s Fukushima-Daiichi nuclear power station. Contact: IAEA Division of Nuclear Fuel Cycle and Waste Management, P.O. Box 100, A-1400 Vienna, Austria; telephone: (43-1) 2060-21270; fax: (43-1) 2060-20607; e-mail: IAEO@IAEA1.IAEA.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 03007892 MESCALERO APACHES
PRIVATE SF STORAGE PLAN MOVES AHEAD; FEDERAL PROGRAM

STALLED Nuclear Waste News Dec 14, 1995 ISSN: 0276-2897 WORD COUNT: 298

While Congress continues to drag its feet on legislation that would require the federal government to open an interim storage facility for spent nuclear fuel (SF), the Mescalero Apaches and a consortium of utilities headed by Northern States Power are moving ahead with plans to open a private spent fuel storage facility on the Apaches' New Mexico reservation.

A floor vote on Rep. Fred Upton's (R-Mich.) nuclear waste bill, H.R. 1020, which was anticipated for Dec 13 or 14 appears, at press time, to have been delayed again. The vote may come Dec. 15, but it now seems the debate will probably occur the week before Christmas, unless budget negotiations between the White House and Congress force another postponement.

Quick Senate Action Unlikely

Even if the House does act, it is unlikely the Senate will pass any type of nuclear waste legislation this year. And if the Senate does act in 1996 - something that is not a certainty - it will take time for the two chambers to work out any differences between their bills.

The private storage facility consortium, on the other hand, expects to apply for an NRC license by December of next year and hopes to receive the first SF shipment sometime in 2002.

NWTRB: John Arendt, a professional engineer and certified nuclear materials manager, has been appointed by President Clinton to a four-year term on the Nuclear Waste Technical Review Board (NWTRB). Board members are nominated by the National Academy of Sciences for appointment by the president. Arendt is a member of the American Nuclear Society (ANS) and the Institute of Nuclear Materials Management (INMM). He also represents INMM on the American National Standards Institute's Nuclear Standards Board and is chairman of the ANS standards committee on Packaging and Transportation of Radioactive Material (N14).

The National Association of Regulatory Utility Commissioners (NARUC) is encouraging states to investigate alternatives to paying into the national Nuclear Waste Fund. Federal government and congressional footdragging in solving spent fuel disposal problems prompted the resolution passed at NARUC's Nov. 17 annual meeting in New Orleans, according to NARUC.

The resolution is a softer version of one proposed by Warren Arthur, a commissioner with the South Carolina Public Service Commission. In the resolution, NARUC said it supports the actions of the Virginia State Cooperation Commission, which initiated an investigation into withholding money from the waste fund this July, and hopes other states will follow suite.

Follow Virginia's Example

"NARUC encourages state public utility commissions to consider following the course taken by Virginia as one way of investigating and determining the legal and policy issues involved in the potential failure of the federal government to provide timely storage and disposal of spent nuclear fuel," the resolution said.

The resolution is a response to Congress' continued use of NWF money to offset the deficit. "It is becoming increasingly apparent that the states, ratepayers and nuclear utilities may not be able to count on the Congress or the federal government to use the monies contributed to the Nuclear Waste Fund for their intended purposes," the resolution said.

Arthur's resolution took these sentiments one step farther. It requested states be prepared to take action on withholding money from the waste fund. Arthur wanted some sort of legal action from the states he told NWN. This did not mean money had to be withheld.

Measured Steps

It could mean starting a show-cause hearing or something along those lines, Arthur said. "I did not want for us to start another study," he said. But a NARUC source said some commissioners were uncomfortable with Arthur's approach. The prevailing wisdom was to take measured steps. And there was fear that Arthur's resolution would preempt state regulators.

It is past time merely to study the issue, Arthur said. "We know where the waste fund money is going. We're going to have to do something." The resolution, as passed, shows NARUC does not understand what it will take to get the attention of Congress, he said. The NARUC resolution "won't even raise an eyebrow in Con-gress," he said.

Arthur challenged the idea that the resolution would take away state regulators' authority. His resolution, or any NARUC resolution for that matter, is non-binding, he said. It only gives a sense of how the commissioners feel.

If nothing happens in Congress to resolve the spent fuel issue before NARUC meets again in February, Arthur says he will re-introduce his resolution. And he thinks it has the support to pass, he said. Many commissioners expressed their dissatisfaction after NARUC adopted the current resolution, saying they wanted something stronger, Arthur said.

"I don't feel we communicated a sense of urgency with our current resolution," Arthur said.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02991150 RUSSIAN NUCLEAR WASTE
TERMED MAJOR ENVIRONMENTAL THREAT Nuclear Waste News Nov 30, 1995 V. 15
NO. 47 ISSN: 0276-2897 WORD COUNT: 297

The tons of spent nuclear fuel plus low- and mid-level nuclear waste in and around Russia's Kola Peninsula poses a significant environmental hazard comparable to the threat presented by Chernobyl's stricken reactor, Norwegian researchers say.

In its Nov. 29 report, the Oslo-backed Bellona Foundation partially contradicts an earlier government contention that nuclear waste from the Russian Northern Fleet poses little environmental danger (NWN, Nov. 23, p. 452).

The report, authored by Bellona Foundation researcher Thomas Nilsen, indicates the radiation contained within nuclear storage facilities at Andreeva Bay, for example, is several hundred times greater than that inside Chernobyl Reactor 4.

Focusing on nuclear waste storage facilities along the Zapadnaya Litsa fjord, 28 miles from Norway, the Bellona study singles out for criticism above-ground waste facilities where spent nuclear fuel equivalent to between 54 and 76 reactor cores is contained in dilapidated, 30-year- old storage tanks.

Although data for the report reportedly was derived from people making authorized visits to Russian military sites, it does not include risk assessments or direct observations by Bellona Foundation staff. The foundation complains that only military personnel are permitted into the most sensitive areas and that not even Russia's civilian nuclear power experts have fully assessed the environmental and health risks posed by the Kola Peninsula storage facilities.

The Bellona Foundation said its Murmansk office was raided by Russian police Oct. 6 and files detailing the group's investigations were confiscated.

The Group of Seven (G-7) most industrialized countries have been asked to address the issue of nuclear waste storage and management in Russia at next year's summit in Lyon, France. Identifying the environmental and health hazards is just the first step and must be followed by funding for cleanup, European Parliament member Carlos Pimenta said in a statement accompanying the report's release.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02980718 MULTI-PURPOSE CANISTERS
MPC DEVELOPMENT FALLS VICTIM TO OCRWM BUDGET

SLASHING Nuclear Waste News Nov 9, 1995 V. 15 NO. 44 ISSN: 0276-2897
WORD COUNT: 279

Reductions in fiscal year 1996 funding for the civilian radioactive waste program will impact development of multi-purpose canisters (MPC) used in transporting spent nuclear fuel DOE announced Nov. 7. The Energy and Water Appropriations Bill, H.R. 1905, cuts funding for civilian waste activities to \$400 million in FY'96, and requires \$86 million of \$400 million be used only for work on an interim storage facility.

DOE anticipated budget cuts and started laying off personnel. But the fencing of the \$85 million for interim storage was not anticipated and triggered the cuts in the MPC program. DOE will continue with the first phase of the MPC contract, awarded to Westinghouse last April, but will reduce or eliminate the second and third phases of the program.

Dead in the Water?

"The program does not anticipate proceeding to the next phase, consisting of NRC Nuclear Regulatory Commission| certification and prototype fabrication or to the third phase of MPC fabrication and deployment beginning in 1998," DOE said.

Because of budget cuts, DOE is no longer the lead agency conducting the Environmental Impact Statement (EIS) covering selection of a transportation cask. The Navy, which was a cooperating agency, now will become the lead agency. "The Navy will proceed with that part of the EIS covering naval spent fuel and will evaluate all six container system alternatives planned for consideration," DOE said. The Office of Civilian Radioactive Waste Management is evaluating the options for continuing development of two General Atomics shipping casks.

DOE also anticipates an additional 160 layoffs because of the budget bill. DOE originally announced 875 layoffs in September. Most of the new layoffs will be TRW contractor personnel DOE said.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02956282 Scientific Basis for Nuclear Waste Management Nuclear Waste News Oct 26, 1995 V. 15 NO. 42 ISSN: 0276-2897 WORD COUNT: 93

* Scientific Basis for Nuclear Waste Management, Symposium V: Materials Research Society Fall Meeting, Nov. 27-Dec. 1, Boston. Sessions include: disposition of surplus plutonium; bentonite barriers; thermodynamics and kinetics of mineral and aqueous systems; sorption, ion exchange and coprecipitation; flow and transport; glass waste forms; natural analogs and site characterization; performance assessment; waste processing; cement waste forms; ceramic waste forms; corrosion of fuel and waste containers; spent fuel durability; analytical techniques; separation technology. Contact: Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237; (412) 367-3003, ext. 405; fax: (412) 367-4373; e-mail: hopey@mrs.org.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02935229 CONGRESS IDAHO SENATOR
WOULD REQUIRE NTS INTERIM STORAGE FACILITY Nuclear Waste News Sep 28, 1995
V. 5 NO. 37 ISSN: 0276-2897 WORD COUNT: 550

The U.S. House of Representatives has narrowed its field of nuclear waste bills to just one, H.R. 1020; however, new bills still are being introduced in the Senate. Sen. Larry Craig (D-Idaho) introduced the newest entry into the nuclear-waste-bill sweepstakes Sept. 25.

His bill, The Nuclear Waste Policy Act of 1995, S. 1271, is similar to H.R. 1020. The main thrust of S. 1271 is to assure that an interim storage facility is built at the Nevada Test Site and ready for operation by 1998.

The interim facility would be built in two phases. Once the first phase is built, it could accept up to 20,000 metric tons of spent fuel and high-level waste. During the second phase, the facility would be expanded to a capacity of 100,000 metric tons.

Defense Waste Storage

Both civilian spent nuclear fuel and defense wastes would be stored at the interim facility. When Craig introduced the bill on the Senate floor, he mentioned the importance of moving spent naval fuel, now stored at DOE's Idaho National Engineering Laboratory in Idaho Falls, to the interim facility when it opened.

"This legislation will solve an important issue for the citizens of Idaho, and frankly, for all Americans," Craig said. Ernest Hollings (D-S.C.), who represents another state where DOE now stores large amounts of spent fuel, also is one of the bills co-signers.

Craig's bill sets three funding priorities for the new nuclear waste storage program. The first priority will be construction of the interim storage facility, followed by money to build a rail spur to the storage facility. The third priority will be scientific studies needed to select a permanent repository location.

Yucca Mountain

Craig said he expects Yucca Mountain, Nev., to remain the candidate repository site. "I do not think it is unreasonable to assume that Yucca will eventually be judged as suitable for a permanent repository. Nor do I think establishing a storage site near the mountain compromises the integrity of the scientific studies currently ongoing."

Funding is the major difference between S. 1271 and H.R. 1020. The House bill only allows the Nuclear Waste Fund to collect as much money as the program will spend in a given year; however, the Senate bill would keep the current utility surcharge structure in place, with no move to take the Nuclear Waste Fund off-budget.

"I hope as we proceed in the Senate, however, that we will take a close look at the House funding provision or something similar to help ensure that Congress once and for all moves towards ending the practice of collecting funds for a specific purpose and then using them to help balance our out-of-balance budget," Craig said.

Craig's bill requires DOE to take title to spent fuel at the reactor site and be responsible for shipping it to the interim storage site. DOE also will be required to buy shipping casks to move the fuel.

No action is pending on S. 1271, and H.R. 1020 waits for other House committees with jurisdiction over the bill to act before it goes to the full House for a floor vote. At the present time, however, all other issues are taking a backseat to the appropriations process, which could drag on for a month or longer.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02896776 DOE TO PREPARE AN EIS ON MULTI-PURPOSE CANISTERS Nuclear Waste News August 31, 1995 V. 15 NO. 34 ISSN: 0276-2897 WORD COUNT: 337

With the award of a multi-purpose canister (MPC) contract to Westinghouse earlier this year, DOE is beginning to prepare an Environmental Impact Statement (EIS) for the project.

DOE announced an implementation plan for the MPC Environmental Impact Statement in the Aug. 30 Federal Register. The EIS will look at using canisters to store both civilian and naval spent nuclear fuel.

DOE will examine several alternatives to the MPC in the EIS, the notice said. "Alternative hardware systems differ in whether they are based on single-unit, heavily-shielded 'casks' that feature bolted lids, or relatively thin-walled 'canisters' that are sealed by welding and used with specialized overpacks for purposes of storage, transportation or disposal."

The EIS will look at using single-and dual-purpose canisters already approved by the Nuclear Regulatory Commission for managing spent fuel; current casks supplemented by high-capacity rail transportation casks; a system of dual-purpose canisters; and a system using only 75-ton MPCs.

Manufacturing Impacts

The impact of cask manufacturing, handling and storage activities at facilities and transportation also will be reviewed in the EIS. Because no site for the production of casks has been chosen, data for evaluating manufacturing impacts will be based on representative manufacturing facilities. Information about two known potential sites will be included in the EIS.

The EIS will use representative data from existing spent fuel storage locations for evaluating at-reactor handling and storage activities. The EIS will address only the impacts of surface activities. Any repository activity impacts will be addressed in the EIS for the permanent repository at Yucca Mountain, Nev. Operations involving spent naval fuel at the Idaho National Engineering Lab will be covered in an annex to the EIS for the MPC.

In considering transportation impacts, the EIS will look at moving spent fuel from powerplants to an interim storage facility and also from an interim facility to Yucca Mountain.

DOE expects a draft EIS to be ready for public comment in December. Public hearings will be scheduled. For copies of the Implementation Plan, call DOE at (800) 672-3304.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02896775 COURT THROWS OUT FIRST
UTILITY LAWSUIT OVER DOE SF ACCEPTANCE Nuclear Waste News August 31, 1995 V.
15 NO. 34 ISSN: 0276-2897 WORD COUNT: 145

The U.S. District Court of Appeals for Washington, D.C., dismissed as premature a lawsuit filed by utilities in June 1994 based on a May 1994 Federal Register Notice of Inquiry in which DOE said it did not have an obligation to take spent nuclear fuel from utilities by 1998. The court said the announcement did not constitute a final agency action.

The court, however, will consider a second lawsuit filed by utilities based on a final decision issued by DOE in May 1995 saying the agency continued to believe it did not have an obligation to take spent fuel by 1998.

Parties to the first lawsuit will be added as intervenors to the second lawsuit and the court ordered the clerk to set a briefing schedule for both sides to argue their case. As of press time, that schedule had not been finalized.

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02858569 SENATE PANEL GIVES WASTE PROGRAM \$551M; CALLS FOR INTERIM STORAGE Nuclear Waste News July 27, 1995 V. 15 NO. 30 ISSN: 0276-2897 WORD COUNT: 589

It now seems likely work on the high-level radioactive waste repository at Yucca Mountain, Nev., will be drastically scaled back in the coming years. Instead, DOE's spent fuel disposal efforts will shift to completing an interim storage facility by 1998.

The Senate Appropriations Committee's energy and water development subcommittee approved a spending bill giving DOE \$551.6 million for civilian waste management activities in fiscal year 1996. Nuclear Waste Fund money will account for \$151.6 million, with the other \$400 million coming from the defense nuclear waste disposal account. The total is slightly more than the \$425 million appropriated by the full House of Representatives July 12 for the program (NWN, July 13, p. 271).

Repository Cannot Remain on Course

DOE originally requested \$630 million for the Office of Civilian Radioactive Waste Management in FY'96. Dan Dreyfus, OCRWM head, has said repeatedly the repository program cannot remain on course unless it receives full funding.

"The Committee recognizes that the failure to fund the program adequately will delay the completion of the repository indefinitely," said report language accompanying the Senate bill.

Like the House bill, the Senate bill seeks to shift the focus of DOE's civilian waste efforts. "The Committee shares the House's frustration with the (Clinton) administration's lack of enthusiasm for resolving the nation's civilian high-level radioactive waste problem," the report said.

Spending Guidelines

Unlike the House bill, the Senate bill provides very specific spending guidelines. "The Committee directs the Department (of Energy) to provide for the interim storage of spent nuclear fuel beginning on Jan. 31, 1998, or as soon thereafter as practicable," the report said. The bill then directs DOE to spend \$85 million on the interim facility in FY'96.

Work at Yucca Mountain will continue, but at a vastly reduced funding level. The Senate bill allows DOE to spend \$250 million at Yucca. Efforts there should focus on "core scientific activities" such as completion of the exploratory tunnel, and tests needed to assess the repository's performance the report said.

The program requirements and funding levels in the Senate bill closely resemble what Dreyfus said he could do with scaled back funding during recent House hearings on the civilian waste program (NWN, June 29, p. 253).

DOE has not, however, started restructuring its civilian waste program to reflect the new funding realities, according to a DOE spokeswoman. Instead, the department will wait for the results of the House/Senate conference on the bill, where the appropriations will be finalized, she said.

EM Funding Down

DOE also will see less money for its environmental management efforts in FY'96, with the Senate looking to appropriate \$5.98 billion for defense environmental restoration and waste management programs. This represents \$724 million more than the House appropriated (NWN, June 22, p. 243, and July 13, p. 271), but still less than the \$6.582 billion requested by DOE.

Of the money appropriated in the Senate bill, \$1.635 billion will go for environmental restoration, with \$2.470 billion going for waste management. Nuclear materials and facilities stabilization will receive \$1.532 billion; while \$495.5 million will go for technology development; \$97 million for analysis, education and risk management and \$16.1 million for transportation management.

The Appropriations Committee is expected to act on the bill the afternoon of July 27. From there it will go to the full Senate for consideration. After passage, any difference between the House and Senate versions must be worked out by a House/Senate committee before the bill goes to the President for signature.

Record -36

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02843230 STUDY ESTIMATES COLD WAR COST \$375T, CLEANUP COULD UP ANTE Nuclear Waste News July 13, 1995 V. 15 NO. 28 ISSN: 0276-2897 WORD COUNT: 2185

The cost of the Cold War nuclear arms race for the United States was much higher than the public originally was told, said the U.S. Nuclear Weapons Cost Study Project.

A July 11 preliminary report by the project, comprised of 11 members from various think-tanks, puts a cost of \$375 trillion in 1995 dollars on the U.S. nuclear weapons program. Costs will increase as DOE manages plutonium from dismantled bombs and cleans weapons facilities. The report estimates dismantling the nuclear stockpile will cost \$15 billion, including dismantling missiles and warheads and storage and disposition of fissile material.

Environmental remediation in the wake of the Cold War will cost at least \$385 billion, including waste management, remediation and compensation for people affected by nuclear tests.

"The projected cost of environmental remediation and waste management will most likely meet or exceed the cost of building the nuclear warheads and bombs," the report said. The costs of dismantling weapons and environmental cleanup were included in the report.

Environmental problems were exacerbated by the secrecy surrounding the weapons program. Weapons production was emphasized over worker safety or protection of the public and the environment, Kevin O'Neill, a research assistant at the Institute for Science and International Security, said at a Washington, D.C., press conference.

About \$100 billion in cleanup costs will come from managing solid waste created when building nuclear weapons, said Arjun Makhijani, president of the Institute for Energy and Environmental research. DOE estimates decontamination and decommissioning of buildings could cost \$54 billion, but this does not take into account some 7,000 facilities which might eventually be closed, the report said.

The environmental hazards created building nuclear weapons must be addressed. If they are not taken care of, problems will only become worse, Makhijani said.

Prioritizing cleanup work is a problem, and risk-assessment techniques cannot help in the decision making process, Makhijani said. The conditions of many of the hazardous sites are not known. "Most of these risks cannot be rationally calculated," he said.

Cleanup costs may be even higher than the report estimates, since it did not take into account the decommissioning and disposal of nuclear submarines or any costs that may come from helping the Russians in their cleanup efforts.

While DOE struggles to receive funding requested for its environmental management programs, the Senate Armed Services Committee approved a bill June 29 that requires DOE to start spending more money on production facilities at the Savannah River Site near Aiken, S.C., the Pantex Plant in Texas and the Kansas City Plant. DOE was scaling back operations at these plants.

The final report of the U.S. Nuclear Weapons Cost Study Project will not be available until next year. For more information, contact: Stephen Schwartz, 1775 Massachusetts Ave., NW, Washington, DC 20036-2188; (202) 797-6030; fax: (202) 797-2965; e-mail: sschwartz@brook.edu.

NRC Publications

The following Nuclear Regulatory Commission publications are available at the price indicated from: U.S. Superintendent of Documents, P.O. Box 37082, Washington, DC 20013-7082; (202) 512-2409.

1 Control of Water Infiltration into Near-Surface LLW Disposal Units, NUREG/CR-4918, Vol. 8, by R.K. Shulz, et. al, \$2.75. The project objective is to assess means for controlling waste infiltration through waste disposal unit covers in humid regions. Experimental work is being performed in large-scale lysimeters in Beltsville, Md. Results of the assessment are applicable to disposal of low-level radioactive waste (LLW), uranium and tailings, hazardous waste and sanitary landfills. Three concepts are under investigation: resistive-layer barriers, conductive layer barriers and bioengineering water management.

The resistive-layer barrier consists of compacted clay. The conductive-layer barrier is a special case of the capillary barrier and it requires a flow layer (e.g. fine sandy loam) over a capillary break. As long as unsaturated conditions are maintained, water is conducted by the flow layer to below the water table. The barrier is most efficient at low flow rates and is thus best placed below a resistive layer barrier.

Such a combination of a resistive layer over a conductive layer promises to be highly effective if there is no appreciable subsidence. Bioengineering water management is a surface cover designed to accommodate subsidence. It consists of impermeable panels which enhance runoff and limit infiltration. Vegetation is planted in narrow openings between panels to transpire water from below the panels. This system has successfully dewatered two lysimeters, demonstrating that this procedure could be used for low-cost remedial action, i.e. drying out existing water-logged disposal sites.

Criticality Safety Criteria for License Review of Low-Level Waste Facilities, NUREG/CR-6284, by C.M. Hopper, et. al., \$3.50. The report provides recommended safety criteria for NRC-licensed burial facilities. These criteria have been developed with accepted and consistent nuclear criticality safety evaluation techniques. Additionally, this report provides the basis for the criteria by documenting the evaluation methods and assumptions, and reporting results of single-package and array calculations. These criteria were developed to assure consistency with data and practices provided in current nuclear criticality safety standards, as well as conformity of the criteria to applicable NRC regulations.

Recommended safety criteria are expressed in terms of surface-density spacing criteria, thereby simplifying application of license conditions for nuclear criticality safety control. This approach was used by an NRC licensee at the Barnwell waste burial facility by limiting the specific controls to the fewest number of parameters consistent with good nuclear safety practice. The use of surface-density criteria can eliminate the need for numerous license amendments for variations in package contents and specifications.

News Briefs

ACNW: The Nuclear Regulatory Commission's Advisory Committee on Nuclear Waste (ACNW) will meet July 26-28 at NRC headquarters in Rockville, Md. Discussions will include: disposal of radioactive waste in the United States and Germany; an update on NRC staff efforts to streamline the Site Decommissioning Management Plan process; and efforts by DOE to integrate investigations into hydrology, geology, geochemistry and performance assessment for the proposed high-level waste site at Yucca Mountain, Nev. Contact: ACNW, (301) 415-7360. DOE: Secretary Hazel O'Leary has said she will designate Under Secretary of Energy Charles Curtis acting deputy secretary, replacing Bill White, who is returning to private law practice in Texas. The designation becomes effective Aug. 11, the date of White's departure. In naming Curtis, O'Leary cited his work with DOE's nuclear weapons cleanup, along with other activities. Curtis' appointment as permanent deputy secretary will require nomination by the president and Senate confirmation. O'Leary has not yet named an acting under secretary designate.

Massachusetts: The Low-Level Radioactive Waste Management Board will meet July 19 in Boston. The agenda includes: a discussion of recent newspaper articles concerning incidents involving radioactive materials and low-level waste (LLW) at New England universities; a discussion of South Carolina's decision to open Barnwell to generators in the entire nation, except South Carolina; negotiations between the Department of Interior and California regarding transfer of the Ward Valley site for California's LLW disposal site; and issues related to long-term care of a LLW disposal facility. Contact: The Commonwealth of Massachusetts, Low-Level Radioactive Waste Management Board, 100 Cambridge St., Room 903, Boston, MA 02202; (617) 727-6018; fax: (617) 727-6084.

NARUC: The National Association of Regulatory Utility Commissioners (NARUC) will hold its next Nuclear Waste Issues Dinner, July 22 in San Francisco. The topic will be "Legislative Principles at the Crossroads," and the dinner speaker will be Daniel Dreyfus, director of DOE's Office of Civilian Radioactive Waste Management. The dinner will be followed by panels on the status of nuclear waste legislation and implications of congressional actions for the near- and long-term; and state perspectives on the civilian nuclear waste program and the need for reform. Contact: Olga Krueger, Nuclear Waste Program Office, National Press Bldg. 529 14th St., NW, Suite 1071, Washington, DC 20042; (202) 347-4314; fax: (202) 347-4317.

National Academy of Sciences: The National Research Council's Committee for Yucca Mountain Peer Review: Surface Characteristics, Preclosure Hydrology and Erosion will hold its first public meeting July 19-20 in Las Vegas. The study is one of a series requested by DOE to review scientific and technical information contained in its Technical Basis Reports. At the meeting, the committee will receive briefings from DOE's Office of Civilian Radioactive Waste Management, which is sponsoring the study, and other federal agencies and organizations. Contact: Craig Hicks, National Academy of

Sciences, 2101 Constitution Ave., NW, Washington, DC 20418; (202) 334-2138; fax: (202) 334 - 2158.

Business & Technology

Chemical Information Systems now is providing Infodex, an online index to the contents of more than 30 databases making up the Chemical Information System (CIS). The database will enable users interested in a particular subject, such as mixed radioactive waste, to find out which CIS databases contain information related to the subject. Infodex also contains information relating to each of the CIS databases. Procedures for searching and displaying information in Infodex are the same as those used for other CIS databases and the hourly connect charge is \$30. Contact: Chemical Information Systems, Suite 300, 810 Gleneagles Court, Towson, MD 21286; (410) 321-8440 or (800) CIS-USER.

ENSR Nuclear Services: Last month, ENSR completed spent fuel pool cleanup and vacuuming/filtration services at Wisconsin Electric Co.'s Point Beach nuclear plant near Two Creeks, Wis., using the company's specially designed remote handling and vacuuming equipment. The company also received a two-year contract, with a one-year extension option, for a variety of radioactive and hazardous waste projects on a task-order basis for DOE's Brookhaven National Laboratory. Services include supplying processing equipment, packages, training, sampling analysis and personnel. The Washington Public Power Supply System (WPPSS) has awarded ENSR a multi-year contract to provide spent fuel pool irradiated hardware volume reduction, processing, packaging and transport-for-disposal services. ENSR will use its patented underwater shear compactor to segment and volume reduce the irradiated hardware and its TN-RAM Cask to transport the waste to US Ecology's Richland, Wash., disposal site. The WPPSS project will start in September. Contact: ENSR Nuclear Services, 250 Berryhill Road, Columbia, SC 29210; (803) 731-1588; fax: (803) 731-8435.

NES Inc. is marketing a refuel-floor auxiliary bridge for nuclear power plants. The bridge, which provides a second platform for maintenance and inspection work, operates on existing refueling platform rails with no modification necessary. The company already has received contracts for the bridges from Tennessee Valley Authority for its Browns Ferry plant and from Northeast Utilities for its Millstone 1 plant. Contact: NES Inc., 44 Shelter Rock Road, Danbury, CT 06810; (203) 796-5261; fax: (203) 792- 3168.

Oak Ridge Chamber of Commerce: The Chamber of Commerce, in cooperation with the East Tennessee Minority Purchasing Council, the Tennessee Valley Authority, MK Ferguson of Oak Ridge and Lockheed-Martin Energy Systems (the management and operating contractor at DOE's Oak Ridge nuclear facilities), is sponsoring the sixth annual Oak Ridge Regional Business Opportunities Conference, Aug. 31. The conference will focus on contracting opportunities available in the Oak Ridge, Tenn., area, particularly opportunities with DOE and its major contractors. The morning sessions will highlight upcoming contracting opportunities with DOE, MK Ferguson of Oak Ridge, Lockheed-Martin Energy Systems and the Tennessee Valley Authority. The afternoon program will include opportunities for one-on-one sessions with national and regional companies and concurrent sessions on mentoring and partnering, effective marketing, proposal writing, financing and government contracting. Contact: Lawrence Young, Oak Ridge Chamber of Commerce, 1400 Oak Ridge Turnpike, Oak Ridge, TN 37830; (615) 483-1321; fax: (615) 483-1678.

Vectra Technologies Inc., a high- and low-level radioactive waste services and engineering services company, June 30 sold its plant services business to Westinghouse Electric Corp. for \$19 million, less balance sheet adjustments. In announcing the sale, Ray Fortney, VECTRA president and Chief Executive Officer, said: "The proceeds from the sale of the plant services business will strengthen VECTRA's capital position by significantly reducing our long-term debt. This transaction will enable the company to invest in other technologies and businesses, which more closely fit VECTRA's long-term strategy." VECTRA also is relocating its offices from Federal Way, Wash., to San Ramon, Calif. Contact: Ray Fortney, VECTRA Technologies Inc., 1010 S. 333th St., Suite 220, Federal Way, WA 98003; (510) 275-4500; fax: (206) 874 -2401.

Professional Development

Environmental Regulation Course, Aug. 28-30, Baltimore. This course, organized by Executive Enterprises, offers an overview of most major environmental issues and laws. Topics include: the National Environmental Policy Act; the Clean Air Act; the Clean Water Act; the Resource Conservation and Recovery Act; spill and release reporting; underground storage tanks; compliance

auditing; the Toxic Substances Control Act; the Occupational Safety and Health Act; CERCLA/Superfund; the Emergency Planning and Community Right-to-Know Act; inspections; and enforcement. Contact: Executive Enterprises, 22 West 21st St., New York, NY 10010- 6990; (800) 831 - 8333; fax: (212) 645-8689.

Government Institutes Inc. is sponsoring a number of courses of interest to those responsible for managing radioactive and mixed waste at DOE nuclear weapons facilities. These include: 1995 Federal Facilities Compliance Update, Atlanta, Oct. 10-11; Hazardous Waste Management, Handling and Storage at Federal Facilities, Seattle, Nov. 7-8; and Mixed Waste Management, Seattle, Nov. 9-10. Contact: Government Institutes Inc., 4 Research Place, Suite 200, Rockville, MD 20850; (301) 921-2345; fax: (301) 921-0373.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02801298 ALL SF SOLUTIONS WILL
LEAD TO TRANSPORTATION INCREASE Nuclear Waste News June 1, 1995 V. 15 NO. 22
ISSN: 0276-2897 WORD COUNT: 2809

When either a centralized interim storage facility for high-level nuclear waste or a permanent repository open in the United States, there will be a drastic increase in the transportation of spent nuclear fuels. A different transportation environment will surround these larger waste shipments than existed with previous spent fuel shipments, Ed Bentz, president of E.J. Bentz & Associates said at a National Association of Regulatory Utility Commissioners forum May 25.

Previous shipments of spent nuclear fuel were done as a one-time-only event and generally traveled a distance of three states or less. In the future there may be 300 spent fuel rail shipments a year crossing all the states except Alaska and Hawaii, Bentz told the audience attending the Nuclear Waste Issues Forum in Washington.

This means more organizations will be involved in planning for spent fuel shipments. Bentz estimates 648 organizations now have a role in spent fuel transportation-related activities, and that number is growing. All this means that utilities need to develop a spent fuel shipping strategy long before the fuel will ever be moved.

Rail Spurs Need Work

Much of the spent fuel will be moved away from reactor sites by rail. But in some cases the rail spurs to these reactors have not been maintained and need major maintenance or upgrading to handle spent nuclear fuel shipments.

This means an investment of money by the utilities so waste can move off site. The utilities really have no choice in the matter, according to Bentz. "If you can't move it (spent fuel) off site, you have a problem," he said.

Another problem some utilities may have, even if their rail spurs are in good shape, is the rail lines the spurs feed into have been abandoned by the railroad companies. Since deregulation of the rail industry began, many less profitable routes have been eliminated. Some tracks were taken over by commuter-rail companies, others simply sit idle, Bentz said.

This means routing issues will have a significant impact on spent fuel shipments. In fact, Bentz said routing is the biggest problem in 30 percent of the spent fuel shipments.

Utilities may also have problems with the rail carriers. Many trains are now 100 cars long and companies operate under very tight shipping schedules. This puts tremendous pressure on users like utilities to fit in with the railroad's transportation system. "If you don't fit-in, you don't get moved," Bentz said.

Unfortunately for utilities, nuclear waste needs special handling during transportation, and this means it will cost utilities extra to ship spent fuel by rail. Railroads will probably charge an extra \$50 to \$60 per mile to ship spent fuel.

Railroads are also likely to want utilities to pay for extra insurance coverage in case of an accident. Even if there is no release of radioactivity, removing a shipping canister from an accident site could prevent tracks near the accident site from being used for several days, costing the railroad company millions of dollars Bentz said.

Bentz suggested U.S. utilities look at how Europe handles its nuclear waste shipments when planning to move spent fuel. The European waste transportation system is mature, and utilities could learn from problems the Europeans had to deal with earlier, Bentz said.

News Briefs

* A. David Rossin will research the people and events that led to the 1977 U.S. policy decision to abandon spent fuel reprocessing, the impacts of the decision and its implications for the future. Rossin, an independent consultant in nuclear waste and other nuclear issues and former president of the American Nuclear Society, has been appointed Center Affiliated Scholar for 1995-1996 at the Center for International Security and Arms Control, Stanford University. Rossin was DOE's assistant secretary for nuclear energy in 1986-87. He also has directed the Electric Power Research Institute's Nuclear Safety Analysis Center and served as research director for Commonwealth Edison Co. Contact: A. David Rossin, 24129 Hillview Drive, Los Altos Hills, CA 94024; (415) 948-7939; fax: (415) 941-7849.

* Indiana: Indiana University Medical Center last month accidentally sent radioactive waste to a municipal waste incinerator in Marion County. A janitor removed the waste, which included phosphorus-32, sulfur-35 and tritium, from a laboratory radioactive waste receptacle. Hospital officials believe the janitor was not exposed to radiation. Contact: Nuclear Regulatory Commission, Region 3, (708) 790-5500.

1 Argonne National Laboratory: The Department of Energy and the University of Chicago have signed a new, performance-based contract for management and operation of Argonne May 24. The new contract will run through Sept. 30, 1999, and is estimated to involve about \$2.2 billion in operating costs for basic and applied research and development. Current reform objectives are reflected in several aspects of the agreement. DOE and the university will share some risks, with the university taking on new responsibilities for future liabilities resulting from mismanagement, fines or penalties. Balancing these responsibilities, the contract contains incentives for excellence. For the first time, the agreement includes a performance fee based on the quality of research and management operations. The university has committed 20 percent of the performance fee earned to support jointly funded university research at Argonne. The new contract also permits DOE to extend the agreement for an additional five years, based on superior performance.

* Canberra Industries and DOE's Los Alamos National Laboratory have signed a Cooperative Research and Development Agreement (CRADA) to develop software for the Combined Thermal/Epithermal Neutron (CTEN) system. Los Alamos researchers developed CTEN as a non-destructive assay of transuranic waste in 55- and 85-gallon drums. CTEN is a passive/active neutron system with list-mode neutron counting that can reliably sort waste drums at the 100 and 10 nCi/g levels and can detect and/or correct for self-shielding in lumps of fissile material, obtain positional information on fissile distribution, and obtain matrix inhomogeneity information. Los Alamos researchers designed and built the prototype, which will be used at DOE's Buried Waste Integrated Demonstration, Idaho National Engineering Laboratory. Under the CRADA, Canberra will participate in development of the first unit by providing specialized, quality assured software to analyze data from CTEN assays. Contact: Judy Miller, Canberra Industries, 800 Research Parkway, Meriden, CT 06450; (203) 639-2362.

* Department of Energy: DOE and the Fort Worth District Army Corps of Engineers have been awarded the 3rd Federal Environmental Quality Award, given annually by the White House Office of Environmental Quality and the National Association of Environmental Professionals (NAEP). The awards will be presented June 11 in Washington, D.C. DOE won its award for the continued improvement of its National Environmental Policy Act (NEPA) program. "Secretary Hazel O'Leary has taken bold steps to reinvent DOE's NEPA program and has brought a change of culture and instilled in senior managers a commitment to openness and public participation in environmental decisionmaking," said NAEP's notice of the award. Contact: Sandy Brush, National Association of Environmental Professionals, 5165 MacArthur Blvd., NW, Washington, DC 20016; (202) 966-1500; fax: (202) 966-1977.

* Department of Energy: The Environmental Management (EM) office will hold a nationwide satellite "Town Meeting" June 8, from 11:30 a.m. to 4:30 p.m. Thomas Grumbly, assistant secretary for environmental management, will discuss his decisions regarding the 1997 budget DOE will submit to Congress. He will cover how the budget will affect the department's waste management and environmental cleanup efforts and how DOE will deal with expected budget reductions. Contact: Sandra Perkins, Manager of Community Relations, Department of Energy, Oak Ridge Operations, P.O. Box 2001, Oak Ridge, TN 37831; (615) 576-1590.

* Hanford Advisory Board: The board will hear experts explain risk assessment and how such assessments are used in decisions on priorities at a June 1-2 workshop. "The workshop will help the board develop a common background of information about risk assessment. We need that background to understand how to use risk assessments in ranking priorities and in managing risks," said board-member Ralph Pratt, a hydrogeologist with the Oregon Department of Water Resources. Board members also will hold proposed recommendations for advice on cleanup privatization issues. Last month, the 33-member board said it approves the general concept of turning more cleanup work over to private commercial firms, but wanted DOE to explain how the approach would work in specific instances. Contact: Mary Forst, (503) 243-2663.

* Jacobs Engineering Group Inc.: James Thiesing, former deputy vice president of the Fernald Environmental Restoration Management Corp. (FERMCO), has been named Jacobs' vice president of operations for the Cincinnati office. He will direct the day-to-day operations of a 300-person professional staff. Before going to Fernald, Thiesing managed cleanup of the damaged Three Mile Island nuclear power plant in Pennsylvania. Contact: Sherry Sweitzer, Jacobs Engineering Group Inc., Pasadena, Calif.; (818) 578-6992.

* Midwest Compact: The compact commission will meet June 13 in Columbus, Ohio. Contact: Midwest Interstate Low-Level Radioactive Waste Commission, 336 N. Robert St., Room 1303, St. Paul, MN 55101; (612) 293-0126.

* Nuclear Waste Technical Review Board: The Transportation & Systems Panel will meet June 14 in Arlington, Va., to discuss system safety and human factor engineering for DOE's civilian radioactive waste management program and the Yucca Mountain, Nev., site-characterization work. The panel also is interested in recent developments in DOE's transportation program. The panel will hear about the safety analysis of the tunnel boring machine used at Yucca Mountain, DOE's hazard-tracking database, an update on the multipurpose canister design effort, truck-cask certification, trailer testing, transportation risk management, potential heavy-haul and rail routes and transportation routing policy. Contact: Frank Randall, External Affairs, Nuclear Waste Technical Review Board, 1100 Wilson Blvd., Suite 910, Arlington, VA 22209; (703) 235-4473; fax: (703) 235-4495.

* Ohio: Officials with the Ohio chapter of the Sierra Club are urging the state House Energy and Environment Committee to oppose S.B. 19, which would allow Ohio to accept low-level radioactive waste from Iowa, Indiana, Wisconsin, Minnesota and Missouri as the host state for the Midwest Compact. The bill has weak environmental siting criteria, charges Yelena Boxer, the chapter's radioactive waste coordinator. The chapter also fears Ohio citizens ultimately will be responsible for LLW long after generators and other states can be held liable. The state Senate passed the bill in March. Contact: Yelena Boxer, Ohio Sierra Club, (614) 461-0734. Calls for Papers

1 International Conference on Deep Geological Disposal of Radioactive Waste, Sept. 16-19, Winnipeg, Manitoba, Canada. Sponsored by the Waste Management and Environmental Affairs Division of the Canadian Nuclear Society. Three copies of 500-word abstracts, in English, are due Sept. 30. Contact: K. Nuttall, Technical Chair, AECL Research, Whiteshell Laboratories, Pinawa, Manitoba, Canada R0E 1L0; (204) 753-2311; fax: (204) 753-2455; e-mail: woronas@url.wl.aecl.ca.

Business & Technology

1 American Chemical Society has published Radiation and Public Perception: Benefits and Risks (No. 243 in the Advances in Chemistry Series) based on a symposium on radiation and society held April 1992 in San Francisco. The book discusses radiation and its impacts on society. It reviews the health effects of radiation through examinations of irradiated food, iodine-131 therapy, radon studies and related topics. It also examines the effects of exposure to high radiation doses, including the genetic effects of human exposure to ionizing radiation, a health assessment of the Chernobyl accident and cancer risks among atomic bomb survivors. Contact: American Chemical Society, 1155 Sixteenth St., NW, Washington, DC 20036; (202) 872-4600.

* Environmental Resources Management Inc. (ERM) and Logical Data Solutions Inc. (LDS), Bethesda, Md., have formed a partnership under which LDS has acquired the ENFLEX DATA environmental information management software system. The companies will market the software jointly until 2000. ENFLEX DATA is used to perform business analysis and to generate required federal and state reports on radioactive and hazardous waste, wastewater, material safety data sheets, air emissions and SARA Form R emissions. It can be used to support permit tracking, tank management, chemical inventory, audit tracking, PCB equipment, ground water monitoring, hazardous waste manifest, wastewater reporting, air emissions, leak detection and repair, environmental events and container tracking. Contact: Dorothy Condon, ERM Group, Exton, Pa., (610) 524-3657.

* Environmental Systems Research Institute Inc.'s (ESRI) ArcView 2 desktop geographic information system (GIS) software will be embedded in EQUIS for Windows, an environmental software package sold by EarthSoft, Pensacola, Fla. EQUIS is a "power user" system that works with ORACLE databases to provide unlimited client server database computing for environmental applications. It can handle data requirements for some of the largest environmental jobs. The software is used at several military bases for Installation Restoration Program Information Management Systems

applications and by the U.S. Army Corps of Engineers on a number of projects. Radio Satellite Integrators Inc., Torrance, Calif., also has integrated the ArcView 2 GIS software with global positioning system technology to create an automatic vehicle location system. Vehicle location information is overlaid onto digital maps. All data are automatically archived for later retrieval. Contact: ESRI, 380 New York St., Redlands, CA 92373; (909) 793-2853; fax: (909) 307-3051.

* Oak Ridge: DOE's Oak Ridge, Tenn., operations office will cut 700 to 900 jobs at the Oak Ridge facilities over the next two years. These reductions result from changing missions and cost-saving efforts in environmental management and other DOE programs. The first phase of the reduction is expected to be completed Sept. 30. This includes a potential reduction of 250 prime contractor positions - primarily Lockheed Martin Energy Systems - and an additional potential reduction of 200 subcontractor positions. Part of the reduction will come through attrition, hiring restrictions and transfers, with the rest coming through reductions in force (RIFs). Any necessary RIF notices will be distributed by July 28. Plans for a second phase of reductions, to be conducted early in FY '96, have not been completed.

* Sierra Nuclear Corp. has signed an international license agreement with British Nuclear Fuels p.l.c. (BNFL) for Sierra's ventilated storage cask system. The license agreement covers use of the system by BNFL for spent nuclear fuel storage projects in all areas of the world outside of the United States and Ukraine. BNFL has set up a new subsidiary, BNFL Interim Storage Ltd. to market the service in Asia, Western Europe, Central and Eastern Europe, South America and South Africa. Contact: Arthur McSherry, Sierra Nuclear Corp., 1 Victor Square, Scotts Valley, Calif. 95066; (408) 438-6444; fax: (408) 438-5206.

* Vectra Technologies Inc. has completed the first full-system chemical decontamination of an operating U.S. commercial power reactor using Atomic Energy of Canada Ltd.'s (AECL) CAN-DEREM services at Consolidated Edison's Indian Point 2 pressurized water reactor (PWR). Decontamination included the entire reactor coolant system, except the fuel. Vectra achieved a final decontamination factor of 7.8, reducing radiation fields from 1,000 mR to 130 mR. The expected decontamination factor was 5. AECL has licensed Vectra and Westinghouse Nuclear Services Division to apply the service in the United States. Both firms have used the process on reactor subsystems, but Indian Point was its first application to a full system.

* WIPP: DOE has installed a Bureau of Mines' (BOM) automated ground control management system at the Waste Isolation Pilot Plant (WIPP), near Carlsbad, N.M. The system combines sensor technology with "smart" computer analysis techniques to continuously collect and evaluate data from up to 15,000 instruments. It provides around-the-clock assessment of the structural integrity of the plant's underground rooms, drifts and shafts. BOM developed the real-time monitoring system to track ground conditions in longwall coal mines, where the rapid pace of mining can quickly create new hazards. Measuring ground pressure changes, strata movements and other parameters during mining can help engineers detect potential problems with roof supports and identify ways to protect miners.

Professional Development

1 Executive Enterprises will hold mixed waste conferences in Seattle, Aug. 3 -4, and Knoxville, Tenn., Sept. 11-12. Topics include the General Accounting Office review of DOE's Environmental Restoration Program; guidance on Resource Conservation and Recovery Act permitting; planning and implementation of nuclear decontamination and decommissioning; faster, cheaper and safer methods for characterizing mixed waste and laboratory analysis; state activities on mixed waste and the Federal Facilities Compliance Act agreements; and lessons learned on the integration of mixed waste treatment and CERCLA remediation. Contact: Executive Enterprises, 22 West 21st St., New York, NY 10010-6990; (800) 831-8333; fax: (212) 645-8689.

* Radiological Assessment Corp. will hold a course, Pathway Analysis and Risk Assessment for Environmental Compliance and Dose Reconstruction, Nov. 6-10, Kiawah Island, S.C. It will stress practical applications of risk assessment, including where to obtain site-specific information and how to perform dose assessments. The course will emphasize problem solving and application of the latest risk assessment methods. Students will receive information on recently released environmental standards, current dose conversion factors and recommended risk values for conversion of dose to risk. Software used during the course will include MICROAIRDOS, AIRDOS-PC, COMPLY, DECOM and

MEPAS. Contact: Phoebe Boelter, RAC Course Coordination Office, 1715 N. Wells St., Suite 34, Chicago, IL 60614; (312) 988-7667; fax: (312) 649-9383.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02768586 TRANSPORTATION: SPENT FUEL TRUCK SYSTEM TESTED, AND TESTED AGAIN Nuclear Waste News May 11, 1995 V. 15 NO. 19 ISSN: 0276-2897 WORD COUNT: 511

LAS VEGAS - When utilities finally have a place to ship their nuclear waste, most will use rail lines to take the waste from their reactors. But between four and eight utilities will need trucks since they lack access to rail transportation.

This means a legal-weight trucking system must be developed, a significant problem because the weight of entire system - truck, trailer and transport cask - is restricted to 80,000 pounds. The cask alone weighs 55,000 pounds.

But T.C. Smith of E.R. Johnson Associates thinks his company has created such a system. The 240,000-mile equivalency test was completed Jan. 16 and now tests will look at how the system handles on the open road, Smith told an audience at the International High-Level Radioactive Waste Management Conference held here May 1-5.

The system uses a cab-over-engine design because it saves weight, and helps keep the total length under 60 feet. The truck has only a single 100-gallon fuel tank and has aluminum wheels, all to save weight. The entire set-up, with cask, weighs 79,280 pounds, Smith said.

Previous tests emphasized trailer durability, but now Smith said E.R. Johnson wants to know how the components work in an integrated system. "We have no doubt it is safe," Smith said.

The next round of tests will look at how the rig handles compared to other trucks. Testers, all drivers with extensive over-the-road trucking experience, will examine acceleration, lane changing ability and lateral stability. The hydraulic braking system also will be tested extensively.

Human Factors Testing

After that, the truck will hit the road, not to transport nuclear waste, but for more testing. Smith said human factors will be the focus of the final round of tests because it is human error and fatigue that cause most transportation accidents. "We want to make sure we don't pay a fatigue penalty because of the configuration choice."

In these tests, beginning in December 1995 and ending in February 1996, two drivers will take the truck to 16 different utilities in 13 days. The impact on the drivers of this intense schedule will be evaluated. In particular, the quality of sleep the drivers receive will be evaluated, Smith said.

Sleep is important because, under real-world conditions, once the spent fuel is loaded, the truck will not stop until reaching its final destination. Each driver will take a turn at the wheel while the other rests in the truck's sleeper compartment.

If the drivers do not sleep well while the truck is on the road, it means some other way of resting drivers must be devised, Smith said. Removing the sleeping compartment would, however, save additional weight, which would be a benefit, according to Smith.

The goal of all the tests is to have a legal-weight trucking system that can meet DOE and NRC requirements by the time a spent fuel storage site is ready. Besides the emphasis on a safe truck, Smith said driver training will be extensive. Only the best and most experienced drivers will be hired to transport spent nuclear fuel.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02768585 MONITORED RETRIEVABLE STORAGE: MESCALEROS, UTILITY CONSORTIUM MOVES AHEAD

ON PRIVATE MRS Nuclear Waste News May 11, 1995 V. 15 NO. 19 ISSN: 0276-2897
WORD COUNT: 459

LAS VEGAS - The Mescalero Apaches and a consortium of utilities headed by Northern States Power are moving ahead with plans to build a private interim storage facility for spent nuclear fuel on the Mescalero's reservation in New Mexico.

Speaking at the International High-Level Radioactive Waste Management Conference held here May 1-5, a representative from BDM Federal, one of the contractors involved in the project, said the goal was to have a Nuclear Regulatory License by December 1996 and for the facility to be open by 2002. Rita Bowser said the NRC will consider the facility an independent spent fuel storage facility and issue a 20 year license.

Even though they are considered an independent nation, the Mescaleros must follow federal environmental regulations, but are exempt from laws passed by the state of New Mexico. Despite this, there is pressure to conform to state law. Site Will Meet State Regs

Bowser said the Mescalero spent fuel facility will meet or exceed all New Mexico environmental regulations.

One reason for this may be transportation issues. Spent fuel will be shipped to the reservation by rail, and the shipments could be impacted by state regulations.

"It is naive to think this program can be done without reaching out (to other groups)," Bowser said. The Mescaleros are trying to work with New Mexico's government to resolve issues surrounding the interim storage facility.

The Mescalero facility will be designed to handle Multi-Purpose Canisters when they are licensed by the NRC.

MPCs are clearly part of the technology to be used at the Mescalero facility Bowser said. But if there is a delay in licensing the MPCs it will not prevent opening the facility, she said.

The facility will use a "start clean-stay clean" operating concept. Only transport casks that have never been in the fuel pool can be stored at the facility. There will be no decontamination equipment, and any casks arriving with external contamination will be rejected and returned to their source, Bowser said.

Utilities will retain title to the spent fuel stored at the facility according to Bowser. She said it is possible DOE could take title to spent fuel when it is at the Mescalero facility.

But that is unlikely and not necessarily desirable, because it might create fears that the Mescalero's interim storage facility will become a permanent storage facility according to Bowser. "There is a big push to make sure this site is perceived as an interim facility," she said.

Various utilities will make their decision about involvement in the Mescalero project by May 13. After that, site characterization work required for an NRC license will begin. A rail line already runs near the Mescalero reservation, so only a spur needs to the proposed site needs to be built.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02748925 HIGH-LEVEL WASTE:
WESTINGHOUSE GETS MPC SUBSYSTEMS DESIGN JOB Nuclear Waste News April 27,
1995 V. 15 NO. 17 ISSN: 0276-2897 WORD COUNT: 230

Westinghouse Electric Co. has been selected to prepare design information on multi-purpose canister (MPC) subsystems for submission to the Nuclear Regulatory Commission (NRC).

TRW Environmental and Safety Systems Inc., DOE's management and operating contractor for the civilian radioactive waste management program, has awarded Westinghouse a \$14 million contract for the phase one design work. Under the contract, Westinghouse will oversee design of subsystems for two sizes of MPCs: one weighing approximately 125 tons when loaded and the other weighing about 75 tons.

Westinghouse will complete design and safety analyses reports within 12 months. If these meet program requirements, TRW plans to exercise its contract options and call on Westinghouse to proceed with phase two.

Phase two includes preparations for NRC certification of the MPC subsystems and fabrication of prototypes. Phase three includes potential fabrication of up to 150 canisters.

The MPC system includes the canisters, which would hold the spent fuel, and separate storage, transportation and disposal "overpack" containers to be used in different phases of the U.S. nuclear waste management system.

DOE will use the canisters and related overpacks to store, ship and dispose of spent fuel from U.S. commercial reactors.

Members of the Westinghouse team include Packaging Technology Inc., Tacoma, Wash., and Chem-Nuclear Systems Inc., Columbia, S.C. Westinghouse units in Sunnyvale, Calif., Oak Ridge, Tenn., and Carlsbad, N.M., will be involved in the project.

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02748922 DOE: DOE PROPOSES TO STORE SF AT SRS, IDAHO AND HANFORD Nuclear Waste News April 27, 1995 V. 15 NO. 17 ISSN: 0276-2897 WORD COUNT: 482

An April 20 Environmental Impact Statement appears to clear the way for DOE and the Navy to store spent reactor fuel at three sites - the Savannah River Site, Aiken, S.C., Idaho National Engineering Lab, Idaho Falls, and Hanford, Wash., until a permanent radioactive waste disposal solution is found.

The spent fuel would be separated by type. The 2,133 tons of fuel generated by Hanford's reactor would remain at the site. Aluminum-clad fuel would be stored at SRS, while non-aluminum-clad fuel would go to INEL.

Regional Storage Best

"Regionalized storage based on fuel types is considered the best alternative to support the DOE and Department of the Navy's missions. It enables the DOE to most efficiently apply its resources to spent fuel management, and would best position the spent fuel to be prepared for ultimate disposition," Thomas Grumbly, assistant secretary for Environmental Management said.

The EIS follows a 1993 decision by an Idaho Federal District Court stopping shipments of spent naval fuel to INEL until an environmental study was conducted and DOE made a decision on an appropriate disposal method.

DOE looked at several alternatives, including leaving the spent fuel where it was generated or already stored or transporting all spent fuel to a central storage location. The environmental impact of any option was negligible, DOE said. The plan put forward in the EIS was based on public concerns, DOE and Navy mission impacts, cost and environmental analyses, according to DOE. Final Decision in June

A final decision from DOE on interim fuel storage is anticipated this June. The EIS does not address a permanent storage plan for the fuel.

Traditionally, DOE and Navy spent fuel was reprocessed, with the recovered uranium and plutonium used for weapons production. But the end of the cold war has changed that, and the Clinton administration opposes reprocessing of spent fuel for proliferation reasons.

Some groups, however, fear reprocessing is exactly what DOE plans on doing with the fuel. The only reason to regionalize spent fuel by type is to make reprocessing easier and cheaper, Beatrice Brailsford, with the Idaho based Snake River Alliance, told NWN.

Her group favors leaving DOE and Navy spent nuclear fuel where it now is stored, and says the new EIS is nothing more than a "shipping plan" for spent fuel. "We assumed the EIS was going to be a justification of what DOE and the Navy wanted," she said.

Brailsford said her group will continue opposing DOE plans to ship fuel to Idaho, and pointed to a recent Harris poll saying 88 percent of the people in Idaho opposed shipping in more waste. "I think everybody in Idaho is worried about becoming a de facto nuclear waste site."

South Carolina is already involved in a lawsuit to stop foreign spent fuel from being stored at SRS, and opposition to the new DOE plan is strong among regional environmental groups.

Record -42

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02721567 HIGH-LEVEL WASTE: NWSC LOBBIES HOUSE FOR NUCLEAR WASTE CORPORATION

AMENDMENT Nuclear Waste News March 30, 1995 V. 16 NO. 12 ISSN: 0276-2897
WORD COUNT: 438

The Nuclear Waste Strategy Coalition (NWSC) this week lobbied the House to include its proposal to establish a government-owned corporation to deal with spent nuclear fuel disposal (NWN, March 23, p. 113) in one of the nuclear waste policy bills now under consideration.

Members of Congress seemed sympathetic to her cause, NWSC's executive committee chair, Kris Sanda, said, but guaranteed nothing. Sanda hopes to amend H.R. 1020, the legislation offered by Rep Fred Upton (R-Mich.) and Edolphus Towns (D-N.Y.) (NWN, Feb. 16, p. 65).

Upton and Towns were hesitant about having their bill amended, Sanda said. They want the bill to pass, and feel the language NWSC wants added to the bill would hurt its chances, she said.

Staffers familiar with House nuclear waste legislation think it likely someone will offer legislation calling for a government waste corporation, but are unsure of its chances. One big fear is setting up the corporation would delay an already delayed program. Many members believe DOE's program is proceeding satisfactorily and under decent leadership for the first time, so it is better to leave things alone, one staffer said.

Testifying before the House Appropriations energy and water development subcommittee March 28, Sanda, who is also a commissioner with the Minnesota Department of Public Service, repeated a threat to have utilities quit paying into the Nuclear Waste Fund (NWF) if something is not done about spent fuel.

"We have been passing on the cost of the Nuclear Waste Fund, the contract between the federal government and the private utilities, for 13 and some years. As a regulator in Minnesota I'm about to say 'No, turn off the spigot,' because the Nuclear Waste Fund has not delivered the goods from the Department of Energy," she said.

Surprisingly, that comment elicited no response from subcommittee chair John Myers (R-Ind.), the only congressional member in the room as Sanda testified. But when Sanda urged Congress to adopt the Clinton administration's plan to move Nuclear Waste Fund money off-budget, so it can be spent without triggering offsets under Gramm-Rudman, Myers said "the committee is very much aware of the problem you've addressed today."

All of the \$472.1 million requested by DOE in FY'96 for work on the high-level waste repository at Yucca Mountain, Nev., comes from NWF dollars. No other money budgeted for the activity.

NWF money, however, is being used to off-set the federal deficit and Congress seems reluctant to spend the money. This situation could leave DOE's Office of Civilian Radioactive Waste Management with no money for the Yucca Mountain project in FY'96 unless Congress adopts the Clinton proposal, Sanda warned.

A coalition of utilities, state utility regulators and state attorneys general is proposing a wholly-owned government corporation take over from DOE responsibility for building and operating a high-level nuclear waste repository. The Nuclear Waste Strategy Coalition (NWSC), with members in thirteen states, was formed to address the spent fuel storage problem.

The coalition says DOE is incapable of dealing with the problem. Members also are concerned about the fate of the civilian radioactive waste program if DOE is eliminated or has its budget cut even more drastically by Congress.

Speaking at a March 22 Washington, D.C., news briefing, executive committee chair Kris Sanda said a United States Nuclear Waste Corporation needs to be established by Congress this session to deal with the waste issue.

"We cannot continue to throw money at DOE when they can't manage their way out of a paper bag right now," Sanda said. Besides working with the new coalition, Sanda is also a commissioner with the Minnesota Department of Public Utilities.

Creating the corporation would mean adding amendments to legislation already before Congress, probably to Rep. Fred Upton's (D-Mich.) bill, Sanda said. The corporation could take over from DOE 90 days after legislation is passed, according to Sanda. "I think the time to act is now," she said. The corporation would be federally chartered and have the same flexibility in most of its business practices as a private company. It would, however, be subject to congressional oversight. The corporation's charter would transfer money, administration and accountability for the Nuclear Waste Fund from DOE.

An eleven-member board of directors, serving five-year terms, would run the corporation. Members would come from stakeholder groups, with the majority of members from utilities.

Having utilities on the board was controversial, said Mike McCarthy, chair of the NWSC legislative action committee. Their presence will make members inclined to focus on finishing the project instead of concentrating on process, he said. There also will be strict conflict of interest language in the corporation's charter, Sanda said.

Yucca Mountain, Nev., still would be the site of the permanent repository. A corporation, however, can do the work much faster than DOE, especially if legislative reforms easing the licensing standards are passed, Sanda said. The law should be changed to allow combined licensing, with the same operating license covering both an interim and permanent facility, she said.

Safety standards also need to be performance-based, focussing on overall public health and safety rather than simply specifying technical details. Also the time period environmental review standards are required to cover is too long. They should be shortened from 10,000 to 100 years, she said. "Human beings can only think in terms of 50 and 100 years," Sanda said. NWF Money Needed

To make the corporation work and complete the repository at Yucca Mountain, Sanda said Congress must allow money from the nuclear waste fund to be spent on characterization. The money - restricted to repository construction - is now being used to offset the federal deficit.

If Congress does not approve of a nuclear waste corporation, Sanda wants utilities to remove the Nuclear Waste Fund charges from their customer power bills. She then will recommend utilities start their own fund and design a schedule and process to make something happen.

NWSC hopes eventually 20 states will be represented by its members. Presently the group is talking to four states, and it appears Alabama and South Dakota will join the group soon.

The goal is to include members from a broad geographic area in an effort to improve the coalition's political position with Congress. Right now the 13 member states in the coalition contribute over half the votes in the Electoral College. Sanda said this was planned.

Sanda, who was Sen. Bob Dole's (R-Kan.) Minnesota campaign chairwoman when he ran for President in 1988, said she discussed the plan with Dole, who assigned a staffer to research it.

DOE had no comment on the proposal at press time.

Record -44

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02721552 FINDING CONSENSUS ON HIGH-LEVEL WASTE POLICY: A BPI SPECIAL REPORT Nuclear Waste News March 23, 1995 V. 16 NO. 11 ISSN: 0276-2897 WORD COUNT: 1655

This report was prepared by Nuclear Waste News Reporter Mike Barenti and Assistant Editor Peter Lucht. Copyright, Business Publishers, Inc., 1995. Compromise Elusive in Hot Debate Over Nuclear Waste Disposition

What to do with spent fuel may be the most important issue facing the nuclear industry today. It is certainly one of the most contentious. It is an issue where world views spin towards the extremes - anti-nuclear and environmental groups on one side, industry and utilities on the other. It is also an issue ripe for legislative action this session. This special report examines several sides of this complex and timely issue, and presents possibilities for agreement between warring factions in the waste disposition policy battle.

Despite having no mention in the Republicans' "Contract with America," high -level nuclear waste disposal has become a prominent issue on Capitol Hill.

One Senate staffer told NWN that the issue is second on Senate Energy and Natural Resources Committee Chairman Frank Murkowski's (R-Alaska) list of goals for this term. In the House, nuclear waste probably will receive attention after the Republicans complete their frenetic "hundred day" agenda.

With industry suing DOE over delays in its spent fuel acceptance schedule and anti-nuclear and environmentalist groups threatening suits if DOE tries to move spent fuel, it seems unlikely any legislation could please all.

At first glance, there seems to be little room for compromise, and even less desire to reach accord, even though all parties claim to seek the same goal: a rational policy on spent nuclear fuel and nuclear waste. One compromise, temporary on-site dry cask storage until an acceptable permanent solution is found, has found some supporters, and utilities are pursuing that option while concentrating on pending interim storage legislation (see related story, p. 117). Industry Position Staked Out

"Essentially what we are looking for is for the federal government to live up to its obligation to start taking spent fuel beginning in 1998," Cathy Roche, vice president of public and industry communications for the Nuclear Energy Institute, said.

Utilities see a central federal monitored retrievable storage (MRS) facility as the way to achieve this. The MRS would serve as interim storage until a permanent repository at Yucca Mountain, Nev., is completed. Environmental groups, however, see a host of problems associated with this strategy.

Utilities want the spent fuel removed from reactor sites because on-site cooling ponds are reaching maximum capacity, threatening plant shutdowns. Some say such shutdowns are exactly what anti-nuclear groups want. Nuclear Phase-Out Sought

For some groups at least that certainly is the case. If all the nuclear plants operate until they reach their expected service- life, there will be much more waste to deal with, three times more than currently exists, said Diane D'Arrigo, director of the radioactive waste project for the Nuclear Information and Resource Service. The problem with shutting down all the nuclear power plants is they provide 20 percent of U.S. electricity. And in some regions, such as New England, the figure nears 60 percent.

Chris Zimmer of Greenpeace realizes nuclear power plants cannot simply be pulled from operation. Instead Greenpeace advocates phasing out nuclear plants, replacing lost electricity with re- newable energy sources and improved energy efficiency.

Conceding waste must be disposed in some way, Zimmer advocates on-site storage in dry casks. Waste could be shipped to other sites if a closing power plant is not an appropriate storage loca- tion. But in both cases this is only for plants agreeing to shut down, he stressed.

Point of Contention

The idea that storing waste on-site or shipping it is unsafe and unacceptable when a plant is operating, but suddenly becomes acceptable if the plant is shut-down, frustrates many in the nuclear industry. On-site storage has been proposed as an interim solution to the nuclear waste problem before, and environmental groups tend to oppose it.

"The anti-nuclear community knows exactly why on-site storage is a problem, and it's because they've made it a problem," Roche said. "Before they made this a hot-button issue, utilities were able to build and operate on-site storage with very good public acceptance."

Not all environmental groups agree with linking the waste problem to shutting down reactors. "I think the environmentalists have a legitimate complaint. However, in terms of national policy, they lost that debate, many years ago," Natural Resources Defense Council Senior Scientist Tom Cochran said.

Agreeing with Cochran is Arjun Makhijani, president of the Institute for Energy and Environmental Research, who said it is unrealistic to expect utilities to close their reactors. No new reactors, however, should be built, he said, adding most industry analysts view new reactors as unlikely anyway.

Makhijani is among those favoring on-site dry cask storage of spent fuel until a permanent solution can be found. He does not, however, believe a repository at Yucca Mountain is that solution. There is a solution, but it will take time to develop, and dry casks can fill the void until that happens, he said.

Room For Compromise?

Some agreement on spent fuel storage seems possible, but the political and economic environment surrounding the emotional issue hinder consensus. Makhijani advocates compromise, but says "we cannot do it in the polarizing atmosphere of groups defending their turf."

There is general agreement that dry cask storage is technically feasible and safe, and several utilities have turned to this option as storage space in their fuel pools dwindled. Nuclear utilities, however, say they do not want to deal with the political problems of storing waste on-site, and do not want to take the pressure off DOE to provide interim storage.

There also are economic reasons for moving spent fuel off-site, as on-site storage is considerably more expensive, utilities claim. Utilities must now pass on-site storage costs on to ratepayers, even as they are compelled to contribute to the Nuclear Waste Fund.

Utilities fear if they agree to dry cask storage they will have to wage a site-by-site battle for expanded storage. "The same people are there in force, opposing any kind of temporary centralized solution, and they're also opposing - everywhere the issue now comes up - expanded storage on-site. The anti-nuclear community has decided to make it a political issue in an effort to scare people into shutting down plants," Roche said. Public Input Required

But even environmental groups supporting on-site storage do not think utilities should be permitted to build dry casks without public input, as a Jan. 11 federal appeals court decision allowed (NWN, Feb. 16, p. 61).

"Just because dry storage is the least bad way to handle this incredibly poisonous substance doesn't mean that communities should have to surrender their rights to make decisions that affect their own health and safety," said Bill Magavern of Public Citizen.

A site-by-site certification requirement would drive up the costs of nuclear power and possibly make it economically unfeasible - meaning plants would shut down even if there is an agreed upon waste storage strategy.

"They're (anti-nuclear groups) clear about the fact that even if they don't directly shut it down by preventing storage, if they can raise the cost of storage, it's one more thing that helps make a nuclear plant uneconomic," Roche said.

Both sides appear to doubt the other's sincerity. Anti-nuclear groups claim industry does not really care where the waste goes when it leaves the reactors, and industry says the environmentalists do not really want a solution to the waste issue. So even when a solution looks possible, groups seem to find a way to polarize it.

The reason for this may be each side feels it can ultimately win issue without compromising.

"The way I look at the big picture is the nuclear era is destined to come to an end in the next few decades in this country," Magavern said. "I think we need to try and arrive at a consensus on how we deal with this nuclear legacy, and I think that we're not going to be able to come to that consensus until the industry gives up on its fantasy of reviving nuclear power."

The nuclear industry believes it can get what it wants from Congress. Two bills, one in the House and one in the Senate, call for DOE to build an MRS near Yucca Mountain. House and Senate versions of a new Nuclear Waste Policy Act were written by or in close consultation with the nuclear industry. Also, Energy Secretary, Hazel O'Leary said she might support Johnston's bill (NWN, March 9, p. 94).

Roche is certain a bill favorable to industry's position will pass Congress this term, and DOE will build an MRS. But that does not mean an end to the controversy.

Any legislative solution will probably fail, said Michael Gerrard, author of *Whose Backyard, Whose Risk* and a partner in the law firm Arnold and Porter. "I am afraid that the polarization of the issue may lead to enacting legislation that is unworkable," he said.

Some groups opposed to nuclear power may be unwilling to change their position, Gerrard said. But other groups are willing to look for a compromise. "I think this is a problem that tends to spawn 'sky is falling' rhetoric."

Gerrard's book calls for a new way of siting nuclear- and toxic-waste facilities that will spread the burden evenly among states. Until that happens, he believes a temporary solution, probably on-site storage, can be worked out.

Groups say they are willing to talk. But everything seems to be preconditioned. "Certainly this is an issue on which there should be room for compromise. But if their (environmentalists') condition is always, 'Shut you're plant down,' that's not an acceptable condition," Roche said.

But one nuclear-industry representative said the two sides will eventually have to start talking. It is in the environmental groups' best interests to get a sound nuclear-waste policy, and industry must do something with its spent fuel rather than spending years fighting court battles.

Nine bills involving radioactive waste management are before the 104th Congress. Five await Senate action while the other four await consideration in the House. At press time, all the bills were in committee. The proposed Nuclear Waste Policy Act of 1995 (S. 167) was introduced Jan. 5 by Sen. J. Bennett Johnston (D-La.). The bill would require, among other things, DOE to build a monitored retrievable storage (MRS) facility near the Yucca Mountain, Nev., repository candidate site.

The bill sets no date for DOE spent fuel acceptance, saying only it should be done as soon as practicable. A 100-year renewable license for the facility is provided by the bill.

The bill limits the need for Environmental Impact Statements covering the repository, storage and transportation. Repository safety standards supersede the Safe Drinking Water Act, and the president could exempt DOE from federal, state and local laws under some conditions.

The proposed Integrated Spent Nuclear Fuel Management Act of 1995 (H.R. 1020) was introduced Feb. 23 by Reps. Fred Upton (R-Mich.) and Edolphus Towns (D-N.Y.).

The Upton-Towns legislation largely mirrors Johnston's bill. The main difference is Upton-Towns mandates the MRS be open by 1998. Should this not happen, DOE must pay damages to the utilities. The bill also calls for a dedicated rail spur to the MRS.

Upton also introduced a bill (H.R. 1174) March 8 at the Clinton administration's request. This proposal would move money from the Nuclear Waste Fund off budget so it could be spent by DOE on site characterization at Yucca Mountain. Money from the sale of the U.S. Uranium Enrichment Corp. initially would off-set the loss of NWF money. These same provisions are contained in the Upton-Towns bill.

Sen. Richard Bryan (D-Nev.) introduced two bills dealing with nuclear waste. The proposed Independent Spent Nuclear Fuel Storage Act of 1995 (S. 429), introduced Feb. 16, allows utilities to build on-site dry cask storage until a permanent solution is implemented. The bill would allow utilities to use NWF money to pay for the casks.

Bryan's other bill, S. 544, was introduced in the wake of the theory from scientists at Los Alamos National Laboratory, N.M., that a permanent Yucca Mountain repository might eventually explode (NWN, March 9, p. 93). The bill calls on the president to appoint an independent commission to review nuclear waste disposal options. Until this review is completed, no public or private waste repository could be licensed.

Sen. Rod Grams (R-N.M.) introduced the Electric Consumers and Environmental Protection Act of 1995 (S. 443) Feb. 16. This bill gives DOE authority to site and build an MRS anywhere but Yucca Mountain. DOE also must start taking title to spent fuel in 1998, regardless of the status of a storage facility.

The Nuclear Energy Policy Act of 1995 (S. 473) was introduced by Sen. Paul Wellstone (D-Minn.) Feb. 24. It would prohibit the Nuclear Regulatory Commission from issuing new nuclear plant operating licenses until a permanent waste solution is available.

The Nuclear Waste Policy Reassessment Act of 1995 (H.R. 496), introduced Jan. 9 by Rep. Barbara Vucanovich (D-Nev.), would stop work on Yucca Mountain in fiscal years '96 and '97, and require the National Academy of Sciences to conduct a study on repository siting. Nuclear Waste Fund money could not be used for site characterization work at Yucca Mountain.

Rep. Gil Gutknecht (R-Minn.) introduced the Electric Consumers and Environmental Protection Act (H.R. 1032) Feb. 23. It reaffirms some NWPA provisions, but would require DOE to take title to spent fuel by Jan. 31, 1998. The bill eliminates the requirement that a repository site be chosen before an MRS site is picked, and exempts the MRS from NRC licensing requirements.

Record -46

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02721550 UTILITIES USING DRY CASK
OPTION WHILE PROMOTING INTERIM STORAGE Nuclear Waste News March 23, 1995 V.
16 NO. 11 ISSN: 0276-2897 WORD COUNT: 460

While nuclear utilities have their sights firmly set on legislation authorizing a DOE-built interim storage facility, some continue to hedge their bets by pursuing on-site dry cask storage.

Six utilities have site-specific amendments to their Nuclear Regulatory Commission (NRC) licenses, and a seventh is using an NRC-approved generic cask design under its general license. Two applications are pending and more are expected, whether or not a federal interim storage facility is authorized this congressional session.

NRC has approved seven cask designs for use under Part 72 "General License" provisions, and alternative designs are considered for case-by-case license amendments. Just in Case

The nuclear industry wishes to keep the dry cask storage option open while maintaining pressure on DOE to accept spent fuel by 1998. Utilities are in the delicate position of arguing on-site storage is safe and proven, but perhaps not as safe and logical as a central interim facility.

More than safety and environmental reasons have led utilities to seek to get spent fuel off their sites. They have to pay for on-site storage while trying to convince state utility regulators to let them pass on costs to ratepayers. Nuclear Waste Fund money now can be used only for construction of a final repository, leaving the industry paying twice, said Angie McBrien from the Nuclear Energy Institute.

In an effort to stave off long-term interim storage at the Yucca Mountain site, Sen. Richard Bryan (D-Nev.) Feb. 16 introduced legislation allowing utilities to store their spent fuel in dry casks, and use some of their NWF payments to finance cask construction (NWN, Feb. 23, p. 73).

Industry is wary of such proposals, fearing they would pay for that temporary relief with long-term delays in federal spent fuel acceptance, McBrien said. Such on-site storage is only needed because DOE's schedule has slipped, she said. Now in Use

NRC has approved 16-foot-tall casks made of steel or steel-reinforced concrete, capable of holding seven to 56 12-foot-long fuel assemblies. Once loaded, casks are filled with inert gas, sealed, and stored in bunkers or on concrete pads.

The casks - licensed by NRC for 20 years - are used in three configurations. One inserts steel casks horizontally into steel-reinforced concrete vaults. Another places steel canisters vertically in concrete buildings. The third places vertical casks on a three-foot-thick reinforced concrete pad. No cooling and ventilation are needed.

Every 18 months a typical nuclear plant replaces one third to one half of its fuel assemblies, requiring two or three containers per refueling. Recently removed fuel is placed in spent fuel ponds, and older fuel transferred to dry casks.

A canister stored in a vault costs about \$500,000, while a cask stored on a concrete pad can cost twice that, according to NEI.

Record -47

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02686910 INTERIM STORAGE
OPPONENTS PUSHING ALTERNATIVE PLANS Nuclear Waste News February 23, 1995 V. 32
NO. 40 ISSN: 0276-2897 WORD COUNT: 494

Congressional moves toward authorizing an interim high-level nuclear waste storage facility at Yucca Mountain, Nev., have left opponents of the plan scrambling to offer alternative legislation.

Groups opposed to the Yucca Mountain site fear an interim storage facility there will guarantee Yucca Mountain becomes the permanent repository as well. "I am convinced that any centralized interim storage facility will become the de facto permanent repository," Sen. Richard Bryan (D-Nev.) said in a Feb. 16 floor speech.

Bryan introduced a bill Feb. 16 allowing utilities to store their spent fuel at power plants using dry cask storage. The bill would provide credits against utility payments to the Nuclear Waste Fund to finance construction of the casks. Green Light

A Sixth Circuit Court of Appeals last month allowed a Michigan nuclear plant to build dry cask storage without an environmental impact statement or public input (NWN, Feb. 16, p. 61).

Dry storage casks would allow power plants to continue operating until a permanent storage facility is opened; hopefully not at Yucca, if Bryan gets his way.

By considering Yucca as the only site for long-term waste storage, DOE is backing itself into a corner, said Karen Kirchgasser, Bryan's press secretary. This bill deserves consideration by the Senate, she said. The bill is the same as one proposed by Bryan last year which never made it out of committee. Lesser of Evils?

Surprisingly, Bryan's bill is finding support in the environmental community. Some groups believe nuclear waste disposal plans in the United States should be completely revamped, and that dry storage casks will serve as an acceptable temporary solution.

On-site dry cask spent fuel storage is the "least awful solution to the problem," said Arjun Makhijani, president of the Institute for Energy and Environmental Research. Makhijani said his group has advocated the position taken in the Bryan bill for years.

Unfortunately for Bryan and other supporters of dry casks, the nuclear industry says a solution to storing spent fuel already exists, and it does not involve dry casks. This makes industry support for the idea doubtful.

"On-site storage as a solution (to spent fuel disposal) is not a solution," said Angie McBrien, spokeswoman for the Nuclear Energy Institute, the nuclear industry's lobbying arm. Industry Supports Yucca

Industry overall continues to support a storage site at Yucca Mountain. Dry casks are environmentally unsafe, and being forced to deal with on-site storage distracts utilities from their job of generating electricity, McBrien contends.

Industry will continue supporting a bill proposed by Bennett Johnston (D-La.) in the Senate and a similar bill in the House expected to be offered by Rep. Fred Upton (R-Mich.), McBrien said. This should not be a major surprise since NEI had significant input into the language of both bills (NWN, Feb. 16, p. 65).

Bryan termed Johnston's bill "the Son of Screw Nevada," and said the nuclear power industry's newest proposal is nothing less than a "direct assault on the health and safety of Nevadans."

Record -48

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02676017 UPTON SET TO OFFER BILL
MANDATING DOE MRS FACILITY CONSTRUCTION Nuclear Waste News February 16, 1995
V. 15 NO. 1 ISSN: 0276-2897 WORD COUNT: 522

As Congress gets deeper into the new session, a number of bills impacting transportation and storage of nuclear waste loom on the horizon.

One of the first to be introduced will likely be from Rep. Fred Upton (R -Mich.), looking to amend the Nuclear Waste Policy Act. Upton's bill, tentatively titled the "Integrated Spent Nuclear Fuel Management Act of 1994," focuses on spent reactor fuel from commercial sites.

The bill would not only mandate a monitored retrievable storage (MRS) facility be built - eliminating the current requirement that construction on a permanent repository begin prior to MRS construction - but also increase the likelihood that a permanent repository ends up at Yucca Mountain, Nev.

The 1987 waste policy act amendments linked authorization to build an interim facility with the start of construction of a permanent repository. Congress had feared an interim facility would become permanent.

One aide told NWN Upton sees no DOE action on the storage issue, so he will seek to force the department into storing high-level waste by 1998, as it originally promised utilities.

A source familiar with the proposed legislation told NWN the nuclear industry had heavy input on the content of Upton's bill, with the Nuclear Energy Institute - the nuclear industry's lobbying arm - actually writing much of the bill. This same source also said NEI helped write a bill offered in the Senate by Louisiana Democrat J. Bennett Johnson (NWN, Jan. 12, p. 11).

One representative from an environmental group said an NEI lobbyist told her "industry wrote the (Upton) bill."

The bill's language requires DOE to start taking possession of spent fuel from utilities and store it at a federally operated site beginning in 1998, the source said. It goes on to name Yucca Mountain as the site for this interim storage.

According to a draft copy of the bill obtained by NWN, the initial capacity of the interim facility will be 40,000 MTU. And the site could be in operation for as long as 100 years.

If DOE does not begin accepting waste in 1998, utilities will be able to sue DOE for damages. Damages can cover a six-year period of non-acceptance. Fines are specified at \$34,000 per MTU not taken over the first five years, and \$170,000 per MTU for the sixth year. The bill forbids Nuclear Waste Fund money from being used to pay damages.

The bill also specifies transportation methods and directs DOE to build a rail spur to Yucca Mountain for carrying waste. DOE also must provide a method of transporting the waste from reactor sites to mainline transportation facilities. The bill then calls for DOE to expedite the development of the multi-purpose canister system.

The source had no figures on how much all this would cost, but said the money would come from the Nuclear Waste Fund. Upton's office could not give an exact date for introducing the legislation, although staffers hope it will happen in the next two weeks. The staff is still working out final language for the bill.

% A section-by-section analysis of the draft bill, 15 pp., is available through BPI DocuDial as No. 48-598.

Record -49

DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02674072 COALITION PROPOSING AN
END TO DOE OVERSIGHT OF WASTE Nuclear Waste News February 9, 1995 V. 15 NO. 1
ISSN: 0276-2897 WORD COUNT: 485

LAS VEGAS - Contributions paid by utilities to the Nuclear Waste Fund (NWF) may be halted if a coalition of nuclear utilities, state public utility regulatory commissions and state attorneys general decides that is the only way to redirect and accelerate the nation's nuclear-waste-disposal program.

"There are some legal problems with that, (option) but we are getting anxious that this (lack of progress) has gone on and on," Ronald Callen, a representative of the Nuclear Waste Strategy Coalition and a staffer on Michigan's Public Service Commission, told NWN.

The utilities have paid \$10 billion into NWF. Blocking payment of any more funds would be the latest in a series of tactics (including a lawsuit) by the coalition to force the Department of Energy (DOE) to fulfill its contractual obligations and take control of the utilities' spent nuclear fuel by 1998 - then find a temporary repository for the fuel while a permanent storage site is developed. Privatize Management Functions

The 12-state, 28-member coalition also supports several studies recommending new management for the waste-disposal program.

The coalition advocates replacing DOE with an independent public corporation "not subject to the political interests of DOE, the secretary of energy or the Clinton administration. A wholly new organizational structure is needed to begin to make real progress and finally generate some public confidence," Callen said at the conference on Nuclear Waste Transportation and the Role of the Public Jan. 31-Feb.2

Incentives and disincentives are vital to a new organizational approach, he added. For instance, the CEO of the new corporation would be responsible for the program, including hiring and firing of employees and contractors - a responsibility DOE currently assigns to its management and operations contractors.

Callen outlined the lack of progress: "(In 1970, the nation was, by official pronouncement, 10 years away from the opening of a repository. By the date of the Nuclear Waste Policy Act, 1982, we were 16 years away. By 1993, we were as much as 30 years away. That means that, in the last 23 years, the U.S. schedule has slipped as much as 43 years."

He said the slippage is bad news for ratepayers who already have paid for: reracking some spent nuclear fuel in pools two or three times; dry storage; \$10 billion for permanent storage "they are not getting"; and who will pay higher rates for decommissioning nuclear plants if the depleted fuel is not removed from the site.

"Delays in waste disposal have guaranteed that for many plants, decommissioning cannot move forward on an optimal schedule," he said.

To succeed, the coalition will have to move DOE beyond the position announced last year in a letter from Energy Secretary Hazel O'Leary. She wrote to the coalition in June of 1994 explaining, "The Department does not have a clear legal obligation to accept spent nuclear fuel absent an operational repository or other facility."

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DIALOG(R)File 636:IAC Newsletter DB(TM) (c) 1996 02665422 PROPOSAL TO BUILD INTERIM HLW STORAGE FACILITY DEALT SETBACK Nuclear Waste News January 19, 1995 V. 15 NO. 1 ISSN: 0276-2897 WORD COUNT: 347

A proposal to build a transfer area and interim storage site for high-level radioactive waste (HLW) en route to Yucca Mountain failed at a Jan. 3 Lincoln County Commission meeting. However, the commission is expected to vote again on the matter, which promises the New Mexico county \$100 million in federal funds.

The proposed site would serve as a temporary storage facility for 16,500 tons of spent nuclear fuel for up to 30 years. Rail lines, truck routes and transfer facilities would be constructed for transporting the waste barrels to the interim storage facility and Yucca Mountain.

Under the Nuclear Waste Policy Act of 1982, a temporary nuclear waste storage facility cannot be in the same state hosting the permanent storage facility. Yucca Mountain, also in New Mexico, is the lone candidate final geologic repository under consideration. A proposed revamping of the waste act sponsored by Sen. Bennett Johnston (D-LA), however, holds no such restrictions.

Eve Culverwell, chairman of the Lincoln County Commission, intends to introduce the issue again sometime this month. Culverwell brought the proposal to the commission on Jan. 3, but it faltered for lack of a second.

Leading the opposition to the transfer station is Alan Chamberlain, the most recent addition to the commission and a geologist. "The county does not want it," Chamberlain said. He ran his campaign for commissioner on opposition to the transfer stations.

Further, Chamberlain says the transfer station will be a public safety hazard. Geological hazards in the area, he says, have the potential to cause trains carrying nuclear waste to derail.

Should that happen, contaminants could seep into tributaries of the Colorado river, ruining the drinking water for the entire southwest. In light of a Union Pacific Train derailment in the city of Caliente last week in which one engineer was killed, the probability of such an accident is "very, very high," he says.

The county commission consists of three members, and a majority vote is all that is needed to pass the proposal.

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